

CLAIM AMENDMENTS

1. (currently amended) A system for acquiring shape information from three-dimensional shape data using a computer system, said three-dimensional shape data including at least one shape element, comprising:

a three-dimensional shape data acquisition unit for acquiring the three-dimensional shape data stored in a data storage unit;

a three-dimensional shape information generation unit for generating, ~~on said shape element basis, various~~ at least two types of shape information related to each shape element based on parameters entered by a user;

a linkage identifier setup unit for adding a linkage identifier to link, for each shape element, among said ~~at least two various~~ types of shape information, when generating the shape information;

a shape information storing unit for storing said shape information having said linkage identifier ~~identifiers~~ in the data storage unit; and

a shape information linkage control unit for, while referring to said linkage identifier ~~identifiers~~, linking and processing said at least two ~~among said various~~ types of shape information related to a particular shape element selected by the user, wherein said linking is performed by sending and receiving the linkage identifier for the shape element.

2. (Original) The system of Claim 1, wherein

said three-dimensional shape information generation unit successively acquires, based on the physical and logical organizations of said three-dimensional shape data, each type of shape information related to said shape elements making up such physical and logical organizations.

3. (Original) The system of Claim 1, wherein

said three-dimensional shape information generation unit acquires, on said shape element basis, information regarding the shape element's name, attributes, two-dimensional vector data, and image data as said shape information.

4. (Original) The system of Claim 1, wherein
said linkage identifier setup unit generates linkage identifiers based on information concerning
said shape elements included in said three-dimensional shape data.
5. (Original) The system of Claim 1, wherein
said shape information linkage control unit comprises a plurality of information
processing modules for displaying said shape information, and a linkage control module
connected to said plurality of information processing modules, wherein upon the indication of
a specific shape element related to the shape information displayed by said information
processing modules, the linkage identifier corresponding to that shape element is sent to said
linkage control module, and in turn, said linkage control module sends said identifier to each
information processing module so that each information processing module changes, by a
specified method, its display for the shape elements that correspond to said identifier.
6. (Currently Amended) A system for acquiring shape information from three-
dimensional shape data using a computer system, said three-dimensional shape data including
at least one shape element, and linking and processing ~~among the various~~ at least two types of
shape information related to said at least one shape ~~elements~~ element; said linking being
performed by sending and receiving a linkage identifier, said system comprising:
a three-dimensional shape data acquisition unit for acquiring the three-dimensional
shape data stored in a data storage unit;
a three-dimensional shape information generation unit for generating, ~~on said shape~~
~~element basis, various~~ the at least two types of shape information related to each shape
~~elements~~ element based on parameters entered by a user;
a linkage identifier setup unit for adding a linkage identifier ~~identifiers~~ to link, for each
element, among said ~~various~~ at least two types of shape information, when generating the
shape information; and
a shape information storing unit for storing said shape information having said linkage
identifier ~~identifiers~~ in the data storage unit.

7. (Currently Amended) A computer software program for acquiring shape information from three-dimensional shape data using a computer system, said three-dimensional shape data including at least one shape element, comprising:

a three-dimensional shape data acquisition command unit, stored in a computer readable storage medium, for acquiring three-dimensional shape data stored in a data storage unit;

a three-dimensional shape information generation command unit, stored in said computer-readable storage medium, for generating ~~on said shape element basis, various~~ at least two types of shape information related to each of said at least one shape elements element based on parameters entered by a user;

a linkage identifier setup command unit, stored in said computer-readable storage medium, for adding a linkage identifier ~~identifiers~~ to link, for each shape element, among said ~~various~~ at least two types of shape information for that element, when generating the shape information;

a shape information storing command unit, stored in said computer-readable storage medium, for storing said shape information having said linkage identifiers in the data storage unit; and

~~a shape information linkage control command unit, stored in said computer-readable storage medium, for linking and processing among said various types of shape information related to the particular shape elements, while referring to said linkage identifiers~~

a shape information linkage control unit for linking and processing said at least two types of shape information related to a particular shape element selected by the user, wherein said linking is performed by sending and receiving the linkage identifier for the shape element.

8. (New) The system according to Claim 1 wherein the three-dimensional shape data comprises:

a shell for expressing the actual object of a shape, including geometric and topological information;

a group for expressing the structure of a shape, including a name of a part, positional information, and attribute information;

a layer for logically summing up elements included in a shape, including the name of the layer and attribute information; and

attribute information for setting elements of the group or layer, said attribute information comprising numerical values or character strings.

9. (New) The system of Claim 8 wherein all the groups within the shape data is expressed by groups having hierarchical structures, and the group comprises an end group in a hierarchical structure containing at least one shell.

10. (New) The system of Claim 9 wherein the layer is defined independently from the physical structure which expresses the actual object of the shape.

11. (New) The system of Claim 8 wherein the shape information generation unit is capable of acquiring an attribute table for providing group information containing linkage identifier and attribute information.

12. (New) The system of Claim 8 wherein the shape information generation unit is capable of acquiring an attribute table for providing layer information containing linkage identifier and attribute information.

13. (New) The system of Claim 11, wherein the attribute table is configured to summarize information of the numerical values or character strings established in groups.

14. (New) The system of Claim 12, wherein the attribute table is configured to summarize information of the numerical values or character strings established in layers.

15. (New) The system of Claim 1, wherein said shape information linkage control unit comprises:

a corresponding shape information processing module for each of the at least two types of shape information for specifying the shape element corresponding to the linkage identifier, and displaying the shape information of the shape element on a display system;

said shape information linkage control unit is for receiving the linkage identifier from the shape information processing module corresponding to one of the at least two types of the shape information and sending the linkage identifier to the shape information processing module corresponding to the other type of the at least two types of the shape information.

16. (New) The system of Claim 1 wherein the three-dimensional shape data acquisition unit is configured to acquire data in the XVL format.

17. (New) A system for acquiring shape information from three-dimensional shape data using a computer system, said three-dimensional shape data including at least one shape element, comprising:

- a three-dimensional shape data acquisition unit for acquiring the three-dimensional shape data stored in a data storage unit; wherein the shape data comprises:

- a shell for expressing the actual object of a shape, including geometric and topological information;

- a group for expressing the structure of a shape, including a name of a part, positional information, and attribute information;

- a layer for logically summing up elements included in a shape, including the name of the layer and attribute information; and

- attribute information for setting elements of the group or layer, said attribute information comprising numerical values or character strings;

- a three-dimensional shape information generation unit for generating shape information related to each shape element;

- a linkage identifier setup unit for adding a linkage identifier to link shape information for each shape element when generating the shape information;

- a shape information storing unit for storing said shape information having said linkage identifier in the data storage unit; and

- a shape information linkage control unit for, while referring to said linkage identifier, linking and processing among the various types of shape information related to a particular shape element.